

H1 Grid Production Tool for Monte Carlo Production

Monday, 23 March 2009 08:00 (20 minutes)

The H1 Collaboration at HERA has entered the period of high precision analyses based on the final data sample. These analyses require a massive production of simulated Monte Carlo (MC) events.

The H1 MC framework is a software for mass MC production on the LCG Grid infrastructure and on a local batch system created by H1 Collaboration.

The aim of the tool is a full automatization of the MC production workflow, including the experiment specific parts (preparation of input files, running reconstruction and postprocessing calculations), management of the MC jobs on the Grid until copying of the resulting files from the Grid to the H1 tape storage.

The H1 MC framework has a modular structure, providing a separate module for specific task. Communication between modules is done via central database. Jobs are created as a fully autonomic and fault-tolerant for reconstruction processes service and can be running on 32 and 64-bit LCG Grid architectures. In the grid running state they can be continuously monitored using

R-GMA service. Experimental software is downloaded by jobs from a set of Storage Elements using LFC catalog.

Monitoring of the H1 MC activity and detection of problems with submitted jobs and grid sites is performed by regular checks of the jobs state from the database and the Service Availability Monitoring (SAM) framework.

The improved stability of the system has allowed a dramatic increase of the MC production rate, which exceeded two billion events in 2008.

Primary author: Dr LOBODZINSKI, Bogdan (DESY, Hamburg,Germany)

Co-authors: Dr WISSING, Christoph (DESY, Hamburg,Germany); Mrs BYSTRITSKAYA, Elena (ITEP, Moscow,Russia); Mr VOROBIEV, Maxim (ITEP, Moscow,Russia); Dr MUDRINIC, Mihajlo (Vinca Institute of Nuclear Science,Belgrad,Serbia); Mr MITSYN, Sergey (JINR,Moscow,Russia); Mr KARBACH, Till Moritz (Institut fuer Physik,Dortmund,Germany)

Presenter: Dr LOBODZINSKI, Bogdan (DESY, Hamburg,Germany)

Session Classification: Poster session

Track Classification: Distributed Processing and Analysis